Net Operations and Best Procedures

KARO-ECHO has a weekly modified directed net on 146.415. The Net is useful currently for relevant announcements, such as procedures, announcements, trainings, drills, and meetings. It is useful to know who can hear whom. It can be used more extensively for on the air training and practice.

All KARO-ECHO Operators should be trained in good net operational procedures. All should also be trained as a Net Control Station (NCS) since it is uncertain when a disaster will strike and who will be available for these duties 24/7.

A net consists of two or more stations. What is essential is to identify and man the essential stations.

First and foremost each of the 18 CERT Area Incident Command Posts (ICP) should have at least one radio operator assigned to it and at least one radio operator assigned to the EOC at minimum. That is 19 radio operators. Arrangements should be made for shifts and reliefs.

Scenarios

Scenario A: Direct

Let's assume that all CERT Areas can communicate direct with the EOC. Multiple stations check in to the controlled net on 146.415 with multiple emergency and priority traffic for the EOC. Assuming only one ham radio is in place at the EOC, then only one message at a time is on 146.415 would be possible. Instead of sending the message twice to a central relay station and then back down to the EOC; which would increase the possibilities of error and add to net congestion, the Net Control Station (NCS) should first establish if both the sending station and the EOC have good copy on each other. If so, then they should pass their traffic on 146.415 direct.

Scenario B: Relay

If good copy is not possible, then the NCS should ascertain a relay station who can copy both stations in question and send them off to a secondary channel to pass traffic. Such action by the NCS would permit the next emergency traffic to be handled. The relay station and the two other stations should report back on the primary frequency after their traffic is passed, by saying their tactical callsigns if the traffic was successful. If not successful follow your callsign with, NO GO".

Example: "EC5 ICP back" or simply "EC5". The NCS will acknowledge by saying. "EC5 ICP, roger or "EC5 ICP Check".

In the old KaroEcho protocol it was assumed that a relay was necessary and thus operators were assigned to FS 65 and FS 72 as SOP as they are located in the hills with emergency power, outdoor antennas, and high power.

Cons: Such staffing requires two extra operators and if a SOP doubles the bandwidth and time required to facilitate the traffic Hence, that plan has since been scratched.

Discussion:
In the above scenario, we should TEST whether all CERT Areas have good radio capabilities directly into the EOC; and/or what would it take in terms of portable antennas and/or battery-powered equipment to ensure that. For example, in our last drill (two years ago) all the participating CERT Area ICPs were able to communicate with the EOC direct. Portable Go-Karts and/or permanent outdoor antennas installed at ICP/Hub locations whose coax is accessed by a lockbox is the most efficient procedure.

Conclusion: Only if necessary should we utilize relays. When a relay is necessary the relayed written traffic should be passed on the secondary frequency, thus alleviating congestion and limiting errors. The best practice would be to have each radio operator operate with portable gain antennas and/or high power directly.

There are many other possibilities in order to facilitate speedy and accurate message traffic. For example, if all stations had both 70 CM and 2 M capabilities and the EOC had two radios and antennas (one each on each band), traffic throughput could be doubled. Similarly, if the EOC had a GMRS outdoor antenna and more Areas had GMRS outdoor antennas, then more traffic could flow simultaneously when needed.

Another scenario would be back up comms between the Fire Stations and the EOC. A third scenario would be Inter-Area CERT mutual aid traffic which would be handled on the secondary frequency or via GMRS.

KARO ECHO Field Resources Handbook
Directed Net Basics